

6101-003

Work Order ID 150460***150460***

Page 1

Wednesday, August 24, 2016 11:59:38 AM

Item ID: D2938-1 **Accept** ***N900040100*** **Setup** **Start** ***NS1***
Revision ID: **Stop** ***NS2***
Item Name: Saddle LH Out, 206
Start Date: 8/10/2016 **Start Qty:** 4.00 ***4*** **Cust Item ID:**
Required Date: 8/24/2016 **Req'd Qty:** 4.00 ***4*** **Customer:**
Reference:

Approvals: **Process Plan:** **DAS** **21** **Date:** **AUG 30 2016** **Tooling:** **Date:** **Run** **Start** ***NR1***
QC: **9-89** **Date:** **SPC (Y/N):** **Date:** **Stop** ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
Draw Nbr	Revision Nbr								
D2938	Rev C								

100

0.03

100

HAAS CNC VERTICAL MACHINING #1

HAAS 1

Memo

0.54

HAAS CNC vertical machine #1

Program part number and batch number.

- 1-Inspect part number and batch number are programmed correctly.
 2-Machine Step No 1 of Folio and visually inspect as per dwg D2938 & attached Dimension Sheet
 3-Machine Step No 2 of Folio and visually inspect as per

D.A. 16/09/24 4 0 7/2 16/09/23

110

0.00

110

CONVENTIONAL MILLING MACHINE

Mill Conv

Memo

0.05

Conventional Milling Machine

Machine Keyway and inspect per attached dimension sheet

D.A. 16/09/24 4 0 7/2 16/09/23

DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE



QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐																																																											
Date :		Step #:		QTY Effective :				MRB (QSI042) Approval																																																							
Description Work Order Deviation				Disposition				Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval																																																							
Root Cause		FAULT CATEGORY																																																													
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐	Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐	Doc/Data ☐	Offset/Set-up ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐	Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐	Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐	Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐	Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐	Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐	LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐	Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐	Past Expiry Date ☐	Manufacturing Process ☐	OTHER :	
Misidentified ☐	Past Due ☐																																																														

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Page 2

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Approvals: **Process Plan:** _____ **Date:** _____ **Tooling:** _____ **Date:** _____ **Run** **Start** ***NR1***
QC: _____ **Date:** _____ **SPC (Y/N):** _____ **Date:** _____ **Stop** ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
120 *120* QC Quality Control	QC1- Inspection performed by CMM Memo Inspect on CMM as per folio CMMA007. DWG REV: _____ CMM PROG. REV: _____	0.00 0.00				4	0		206/09/23
130 *130* QC Quality Control	QC8- Inspect parts - second check Memo	0.00 0.01				4			206-9-24
140 *140* HandFinish Hand Finishing	Chemical Conversion Coat per QSI005 4.1 Memo	0.00 0.05				(4 LH)	0		206/09/26 BEB

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Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval		
Description Work Order Deviation				Disposition				Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval	
Root Cause		FAULT CATEGORY							
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐				
Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐				
Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐				
Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐				
Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐				
Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐				
Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐				
Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐				
LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐				
Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐				
Past Expiry Date ☐	Manufacturing Process ☐								
Misidentified ☐	Past Due ☐	OTHER :							

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Page 3

Packaging

4. Φ 16-09-26. DAS 34 0.80

4

DAS
38
9-26

SEP 27 2016

4 SEP 30 2016 DAS 6 9-89

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

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Work Order update only ☐

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Date :	Step #:	QTY Effective :		MRB (QSI042) Approval	
Description Work Order Deviation		Disposition		Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval	
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐			
		OTHER :			

Work Order ID 150460

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150460

Page 4

Item ID: D2938-1**Accept*****N900040100*****Setup Start*****NS1*****Revision ID:****Stop*****NS2*****Item Name:** Saddle LH Out, 206**Start Date:** 8/10/2016 **Start Qty:** 4.00***4*****Cust Item ID:****Required Date:** 8/24/2016 **Req'd Qty:** 4.00***4*****Customer:****Reference:****Approvals:****Process Plan:** _____**Date:** _____**Tooling:** _____**Date:** _____**Run Start*****NR1*****QC:** _____**Date:** _____**SPC (Y/N):** _____**Date:** _____**Stop*****NR2*****Sequence ID/
Work Center ID****Operation
Description****Set Up/
Run Hours****Tool ID****Tool #****Plan
Code****Accept
Qty****Reject
Qty****Reject
Number****Insp.
Stamp**

180

QC21- Final Inspection - Work Order Release

0.00

180

QC

Memo

0.07

DAS
21
9-89

OCT 03 2016

Quality Control

DAS
21
9-89

SEP 30 2016

DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE



QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval		
Description Work Order Deviation				Disposition					
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐		OTHER : _____					

Picklist Print

Wednesday, August 24, 2016 11:59:38 AM

Work Order ID: 150460

150460

Parent Item: D2938-1

D2938-1

Parent Item Name: Saddle LH Out, 206

Start Date: 8/10/2016

Required Date: 8/24/2016

Start Qty: 4.00

Required Qty: 4.00

Comments: IPP: B 00.06.26 New DWG rev (mpp 2069)EC
IPP Rev:C As per Rev C 07-03-19 JLM

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
D6101-003		Manufactured	No			100	Each	56.0000	1	4			

D6101-003

Saddle Billet, 7075

<u>Location</u>	<u>Loc Qty</u>	<u>Loc Code</u>
MAT040	5	
145263	5	
MAT046	51	
142007	1	
146890	20	
147659	30	

3
1

mf
16/09/22

DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE



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Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval		
Description Work Order Deviation				Disposition				Completed By	
								Lead hand / Supervisor Approval Verification	
Root Cause		FAULT CATEGORY							
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐				
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Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐				
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Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐				
Past Expiry Date ☐	Manufacturing Process ☐	OTHER :							
Misidentified ☐	Past Due ☐								

DART AEROSPACE LTD	Work Order:	150460
Description: 206 Saddle, Outboard, Left side	Part Number:	D2938-1
Inspection Dwg: D2938 Rev. C		Page 1 of 1

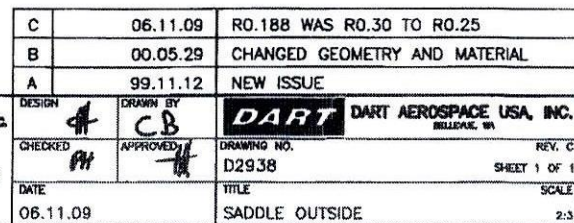
Inspect dimensions highlighted on inspection sheet drawing D2938 Rev. C and record below:

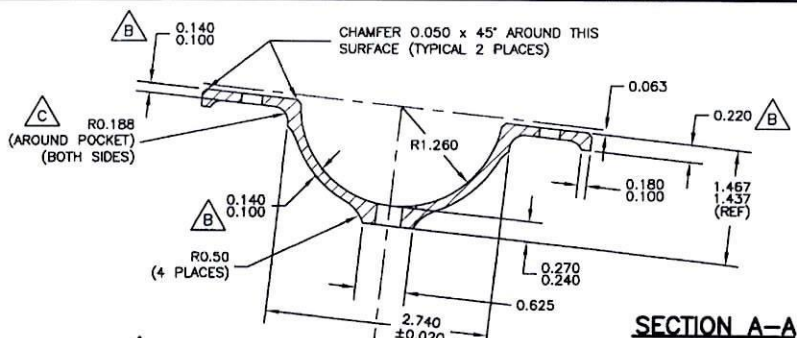
				Recorded Actual Dimensions					
Dim	Min	Max	Go/No Go Gauge	1	2	3	4	By	Date
A	0.100	0.140		.130	.115	.117	.117		
B	0.100	0.140		.131	.115	.116	.115		
C	0.100	0.140		.117	.115	.115	.115		
D	0.210	0.230		.220	.219	.225	.225		
E	1.245	1.255		1.250	1.250	1.250	1.250		
F	1.245	1.255		1.250	1.250	1.250	1.250		
G	2.495	2.505		2.500	2.500	2.500	2.500		
H	0.510	0.515		0.512	0.512	0.512	0.512		
I	1.572	1.582		1.577	1.577	1.577	1.577		
J	2.495	2.505		2.500	2.500	2.500	2.500		
K	0.257	0.262		.259	.259	.259	.259		
L	0.312	0.317		.315	.314	.315	.314		
M	0.235	0.240		0.238	0.238	0.238	0.238		
N	0.100	0.140		.110	.120	.121	.121		
O	0.540	0.560		.550	.550	.548	.550		
P	0.490	0.510		.500	0.500	.500	0.505		
Q	3.715	3.725		3.720	3.720	3.720	3.720		
R	2.720	2.760		2.740	2.740	2.740	2.740		
S	0.240	0.270		.251	.253	.255	.255		
T	0.100	0.180		.135	.137	.135	.135		
U	1.625	1.635		1.630	1.630	1.630	1.630		
V	1.362	1.372		1.367	1.367	1.367	1.367		
W	0.316	0.321		.316	.316	.316	.316		
X	1.250	1.270		1.260	1.256	1.261	1.260		
Y	1.565	1.585		1.575	1.570	1.576	1.575		
Z	0.178	0.198		.188	.188	.188	.188		
AA									
AB									
AC									
AD									
AE									
AF									
AG									
AH									
Accept/Reject									

Measured by: *mk*
 Date: 16/09/23 / 16/09/24

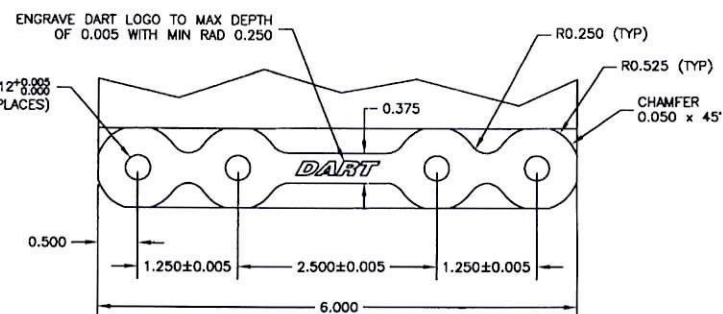
Audited by: *ll*
 Date: 16-9-24

Rev	Date	Change	Revised by	Approved
A		New Issue	RF	
B	02.12.12	Reformat; Added Dim. X-Y, DT8683, DT8686, DT8690	KJ/RF	
C	07.03.21	Revised per drawing revision C	KJ/JLM	

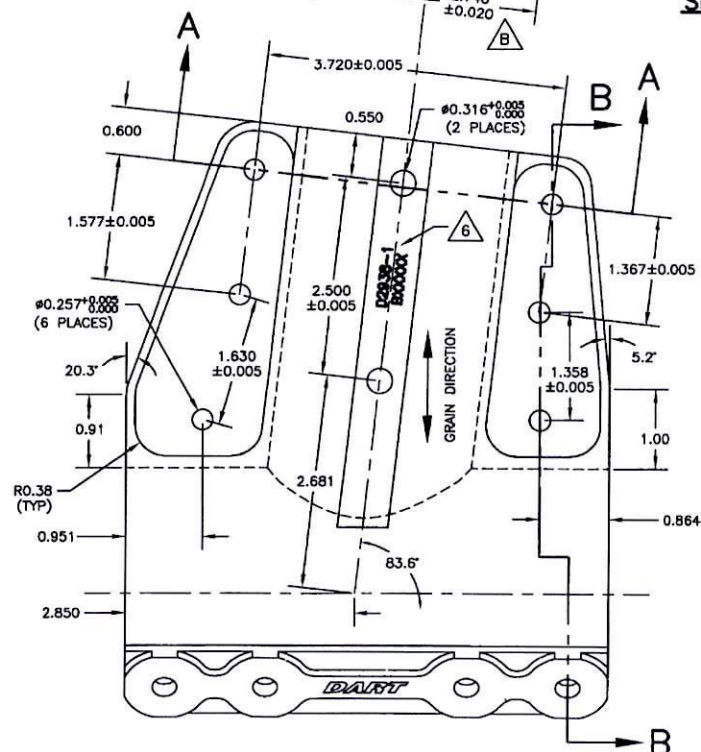




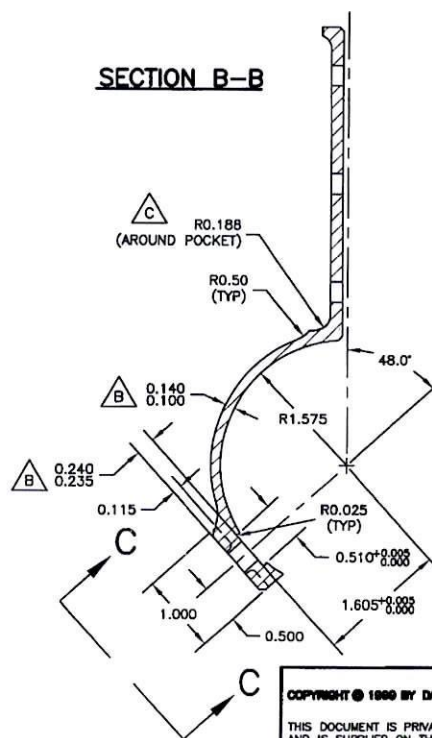
SECTION A-A



VIEW C-C



SECTION B-B



D2938-1 LH SADDLE (SHOWN)
D2938-2 RH SADDLE (OPPOSITE)

- NOTES:**
- 1) MATERIAL: ALUMINUM 7075-T7351 (QQ-A-250/12)
(MAKE FROM D6101-003 SADDLE BILLET, 7075)
 - 2) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1
POWDER COAT GLOSS WHITE (REF 4.3.5.1) PER DART QSI 005 4.3
 - 3) BREAK ALL SHARP EDGES 0.010 TO 0.020
 - 4) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
 - 5) ALL DIMENSIONS ARE IN INCHES
 - 6) ENGRAVE PART AND BATCH NUMBER IN THIS AREA 0.010 TO 0.015 DEEP

C	06.11.09	R0.188 WAS R0.30 TO R0.25
B	00.05.29	CHANGED GEOMETRY AND MATERIAL
A	99.11.12	NEW ISSUE
DESIGN	4	DRAWN BY CB
CHECKED	PH	APPROVED
DATE	06.11.09	TITLE
		SADDLE OUTSIDE
		DART AEROSPACE USA, INC.
		BELLEVUE, WA
		DRAWING NO. D2938
		REV. C
		SHEET 1 OF 1
		SCALE
		2:3

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07.02.12